

# Work Order ID 139667

Monday, November 30, 2015 11:09:38 AM

**\*139667\***

Page 1

Item ID: D3910-5

Revision ID:

Item Name: Crosstube Lug

Start Date: 12/16/2015 Start Qty: 10.00

Required Date: 12/18/2015 Req'd Qty: 10.00

Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

Cust Item ID:

Customer:

20  
CL  
DEC 03 2015  
\*10\*  
\*10\*

Approvals:

Process Plan: MLJ

Date: DEC 03 2015

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start **\*NR1\***

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                                                       | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------------------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| <b>Draw Nbr</b>                | <b>Revision Nbr</b>                                                            |                      |         |        |              |               |               |                  |                |
| D3910                          | E                                                                              |                      |         |        |              |               |               |                  |                |
| 110                            | Outsource process - Machining<br>HAAS CNC VERTICAL MACHINING #1                | 0.00                 |         |        |              |               |               |                  |                |
| <b>*110*</b>                   |                                                                                |                      |         |        |              |               |               |                  |                |
| Outsource5                     | Memo                                                                           | 0.00                 |         |        |              |               |               |                  |                |
| Outsource process - Machining  | Issue P/O to ATG: <u>30654</u><br>MANUFACTURE AS PER DWG<br>C of C is required |                      |         |        |              |               |               |                  |                |
| 120                            | Receive & Inspect for Damage & Mat'l Certs                                     | 0.00                 |         |        |              |               |               |                  |                |
| <b>*120*</b>                   |                                                                                |                      |         |        |              |               |               |                  |                |
| Packaging                      | Memo                                                                           | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      | Ensure C of C is attach                                                        |                      |         |        |              |               |               |                  |                |
| 130                            | QC6- Inspect dimensions to drawing                                             | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   |                                                                                |                      |         |        |              |               |               |                  |                |
| QC                             | Memo                                                                           | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |                                                                                |                      |         |        |              |               |               |                  |                |

CL DEC 03 2015 20

20X SP15-1210

(20) 15-12-16. DAS 9 9-89

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                               |  |                                                                                                                                                     |  |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |  |                                                                                                                                                     |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Positioned Wrong <input type="checkbox"/>     |  |                                                                                                                                                     |  |  |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                                                   | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Outside Dimensions <input type="checkbox"/>   |  |                                                                                                                                                     |  |  |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                                                     | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Over/Under tolerance <input type="checkbox"/> |  |                                                                                                                                                     |  |  |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                                                    | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part Incorrect <input type="checkbox"/>       |  |                                                                                                                                                     |  |  |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                    | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Part Lost/Missing <input type="checkbox"/>    |  |                                                                                                                                                     |  |  |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                                                     | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Part Moved <input type="checkbox"/>           |  |                                                                                                                                                     |  |  |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                                                  | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Drawing <input type="checkbox"/>              |  |                                                                                                                                                     |  |  |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                                                | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Finish <input type="checkbox"/>               |  |                                                                                                                                                     |  |  |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                        | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Misread <input type="checkbox"/>              |  |                                                                                                                                                     |  |  |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                                             | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Turning Sequence <input type="checkbox"/>     |  |                                                                                                                                                     |  |  |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/> | OTHER :                                                                                                                                                                            |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                                                                                                                                                     |  |  |

**Work Order ID 139667**

Monday, November 30, 2015 11:09:38 AM

**\*139667\***

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Item ID: D3910-5 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Crosstube Lug  
Start Date: 12/16/2015 Start Qty: 10.00 **\*10\*** Cust Item ID:  
Required Date: 12/18/2015 Req'd Qty: 10.00 **\*10\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                          | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp     |
|--------------------------------|---------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|--------------------|
| 180                            | Identify as per dwg & Stock Location: <u>5124</u> | 0.00                 |         |        |              |               |               |                  |                    |
| <b>*180*</b>                   |                                                   |                      |         |        |              |               |               |                  |                    |
| Packaging                      | Memo                                              | 0.00                 |         |        |              | <u>20</u>     | <u>6</u>      |                  |                    |
| Packaging                      |                                                   |                      |         |        |              |               | <u>389</u>    |                  | <u>JAN 20 2016</u> |
| 190                            | QC21- Final Inspection - Work Order Release       | 0.00                 |         |        |              |               |               |                  |                    |
| <b>*190*</b>                   |                                                   |                      |         |        |              |               |               |                  |                    |
| QC                             | Memo                                              | 0.02                 |         |        |              | <u>MCS</u>    |               |                  | <u>JAN 20 2016</u> |
| Quality Control                |                                                   |                      |         |        |              |               |               |                  |                    |

MCS JAN 20 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                               | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube <input type="checkbox"/></td> <td style="width: 15%;">Cross tube <input type="checkbox"/></td> <td style="width: 15%;">Water Jet <input type="checkbox"/></td> <td style="width: 15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> |                                   |                                   |                                                                                                                                                     |                                        |                                   | Skid-tube <input type="checkbox"/>    | Cross tube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/>     | Machining <input type="checkbox"/>          | Small Fab <input type="checkbox"/>        | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>           | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>               | Large Fab <input type="checkbox"/>        | Composite <input type="checkbox"/>             | Supplier <input type="checkbox"/>      |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |                                          |                                           |                                           |                                           |                                  |                                 |                                        |                                             |                                                |                                    |                                |                                               |                                 |                                               |                               |                                         |                                                 |                                                            |                                             |                                            |                                |                                        |                                          |                                     |                                   |                                      |                                  |                                  |                                     |                                        |                                     |                                 |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Skid-tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Machining <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Small Fab <input type="checkbox"/>                         | Prod. Eng. Coord. <input type="checkbox"/>                                                                                                                                         | Quality <input type="checkbox"/>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Thermoforming <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Finishing <input type="checkbox"/>                         | Rec/Store/Packaging <input type="checkbox"/>                                                                                                                                       | Other <input type="checkbox"/>                |                                                                                                                                                                                                                                                                                                                                                                                                                       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| Large Fab <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                                   | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |                                        |                                   |                                       |                                     |                                    |                                          |                                             |                                           |                                            |                                  |                                        |                                              |                                              |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| <b>Root Cause</b><br><table style="width: 100%; border: none;"> <tr><td>Environment <input type="checkbox"/></td><td>No Re-verification <input type="checkbox"/></td></tr> <tr><td>Design <input type="checkbox"/></td><td>Operator <input type="checkbox"/></td></tr> <tr><td>Doc/Data <input type="checkbox"/></td><td>Offset/Setup <input type="checkbox"/></td></tr> <tr><td>Equip/Tooling <input type="checkbox"/></td><td>Supplier <input type="checkbox"/></td></tr> <tr><td>Handling/Pre <input type="checkbox"/></td><td>Training <input type="checkbox"/></td></tr> <tr><td>Material <input type="checkbox"/></td><td>Use for Testing <input type="checkbox"/></td></tr> <tr><td>Internal Transport <input type="checkbox"/></td><td>Poor Information <input type="checkbox"/></td></tr> <tr><td>Tribal Knowledge <input type="checkbox"/></td><td>Rushing <input type="checkbox"/></td></tr> <tr><td>LOA <input type="checkbox"/></td><td>Product Improvement <input type="checkbox"/></td></tr> <tr><td>Substation <input type="checkbox"/></td><td>Process Improvement <input type="checkbox"/></td></tr> <tr><td>Past Expiry Date <input type="checkbox"/></td><td>Manufacturing Process <input type="checkbox"/></td></tr> <tr><td>Misidentified <input type="checkbox"/></td><td>Past Due <input type="checkbox"/></td></tr> </table> |                                                            | Environment <input type="checkbox"/>                                                                                                                                               | No Re-verification <input type="checkbox"/>   | Design <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Operator <input type="checkbox"/> | Doc/Data <input type="checkbox"/> | Offset/Setup <input type="checkbox"/>                                                                                                               | Equip/Tooling <input type="checkbox"/> | Supplier <input type="checkbox"/> | Handling/Pre <input type="checkbox"/> | Training <input type="checkbox"/>   | Material <input type="checkbox"/>  | Use for Testing <input type="checkbox"/> | Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/> | Tribal Knowledge <input type="checkbox"/>  | Rushing <input type="checkbox"/> | LOA <input type="checkbox"/>           | Product Improvement <input type="checkbox"/> | Substation <input type="checkbox"/>          | Process Improvement <input type="checkbox"/> | Past Expiry Date <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/> | Misidentified <input type="checkbox"/> | Past Due <input type="checkbox"/> | <b>FAULT CATEGORY</b><br><table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Pressure/Forced <input type="checkbox"/></td> <td style="width: 15%;">Temperature/Cure <input type="checkbox"/></td> <td style="width: 15%;">Power Loss/Surge <input type="checkbox"/></td> <td style="width: 15%;">Positioned Wrong <input type="checkbox"/></td> </tr> <tr> <td>Bending <input type="checkbox"/></td> <td>Set-up <input type="checkbox"/></td> <td>Folio/Program <input type="checkbox"/></td> <td>Outside Dimensions <input type="checkbox"/></td> </tr> <tr> <td>Centre Not Concentric <input type="checkbox"/></td> <td>BOM/Route <input type="checkbox"/></td> <td>Grain <input type="checkbox"/></td> <td>Over/Under tolerance <input type="checkbox"/></td> </tr> <tr> <td>Cracks <input type="checkbox"/></td> <td>Broken/Damage/Defect <input type="checkbox"/></td> <td>Weld <input type="checkbox"/></td> <td>Part Incorrect <input type="checkbox"/></td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave <input type="checkbox"/></td> <td>Inspection Incomplete/Unqualified <input type="checkbox"/></td> <td>Wrong Stock Pulled <input type="checkbox"/></td> <td>Part Lost/Missing <input type="checkbox"/></td> </tr> <tr> <td>Cuffs <input type="checkbox"/></td> <td>Contamination <input type="checkbox"/></td> <td>Out of Sequence <input type="checkbox"/></td> <td>Part Moved <input type="checkbox"/></td> </tr> <tr> <td>Crushing <input type="checkbox"/></td> <td>Countersink <input type="checkbox"/></td> <td>Off-set <input type="checkbox"/></td> <td>Drawing <input type="checkbox"/></td> </tr> <tr> <td>Heat Treat <input type="checkbox"/></td> <td>Cut Too Short <input type="checkbox"/></td> <td>Mislabeled <input type="checkbox"/></td> <td>Finish <input type="checkbox"/></td> </tr> <tr> <td>Wave/Twist in Tube <input type="checkbox"/></td> <td>Instructions Incomplete/Unclear <input type="checkbox"/></td> <td>Fit/Function <input type="checkbox"/></td> <td>Misread <input type="checkbox"/></td> </tr> <tr> <td>Marks/Chatter <input type="checkbox"/></td> <td>Drill Holes <input type="checkbox"/></td> <td>Misaligned/off center <input type="checkbox"/></td> <td>Turning Sequence <input type="checkbox"/></td> </tr> </table> |  |  |  |  |  | Pressure/Forced <input type="checkbox"/> | Temperature/Cure <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/> | Bending <input type="checkbox"/> | Set-up <input type="checkbox"/> | Folio/Program <input type="checkbox"/> | Outside Dimensions <input type="checkbox"/> | Centre Not Concentric <input type="checkbox"/> | BOM/Route <input type="checkbox"/> | Grain <input type="checkbox"/> | Over/Under tolerance <input type="checkbox"/> | Cracks <input type="checkbox"/> | Broken/Damage/Defect <input type="checkbox"/> | Weld <input type="checkbox"/> | Part Incorrect <input type="checkbox"/> | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/> | Part Lost/Missing <input type="checkbox"/> | Cuffs <input type="checkbox"/> | Contamination <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | Part Moved <input type="checkbox"/> | Crushing <input type="checkbox"/> | Countersink <input type="checkbox"/> | Off-set <input type="checkbox"/> | Drawing <input type="checkbox"/> | Heat Treat <input type="checkbox"/> | Cut Too Short <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Finish <input type="checkbox"/> | Wave/Twist in Tube <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Fit/Function <input type="checkbox"/> | Misread <input type="checkbox"/> | Marks/Chatter <input type="checkbox"/> | Drill Holes <input type="checkbox"/> | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/> |
| Environment <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Handling/Pre <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| Material <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Internal Transport <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Tribal Knowledge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Substation <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Past Expiry Date <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Misidentified <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Pressure/Forced <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                          | Positioned Wrong <input type="checkbox"/>     |                                                                                                                                                                                                                                                                                                                                                                                                                       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| Bending <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                             | Outside Dimensions <input type="checkbox"/>   |                                                                                                                                                                                                                                                                                                                                                                                                                       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| Centre Not Concentric <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                     | Over/Under tolerance <input type="checkbox"/> |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Cracks <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                      | Part Incorrect <input type="checkbox"/>       |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                        | Part Lost/Missing <input type="checkbox"/>    |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Cuffs <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                           | Part Moved <input type="checkbox"/>           |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Crushing <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                   | Drawing <input type="checkbox"/>              |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Heat Treat <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                | Finish <input type="checkbox"/>               |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                              | Misread <input type="checkbox"/>              |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |
| Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                     | Turning Sequence <input type="checkbox"/>     |                                                                                                                                                                                                                                                                                                                                                                                                                       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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                            | OTHER : <input type="checkbox"/>                                                                                                                                                   |                                               |                                                                                                                                                                                                                                                                                                                                                                                                                       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    |                                             |                                                          |                                       |                                  |                                        |                                      |                                                |                                           |

# Picklist Print

Monday, November 30, 2015 11:09:38 AM

Page 1 /

Work Order ID: 139667

**\*139667\***

Parent Item: D3910-5

**\*D3910-5\***

Parent Item Name: Crosstube Lug

Start Date: 12/16/2015

Required Date: 12/18/2015

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 13.02.28 NEW ISSUE DD VERF:JFS  
13.09.26 AS PER REV.D DD VERF:JLM

IPP REV:B

| Component Item ID/<br>Item Name          | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status             |
|------------------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------------------|
| D2423<br><b>*D2423*</b><br>Lug Extrusion |                        | Manufactured  | No          |                     |                  |                 | f                  | 397.1023       |             | 1.263158     |               |                |                    |
|                                          |                        |               |             |                     |                  |                 |                    |                | <b>**</b>   |              |               | <u>CY</u>      | <b>DEC 03 2015</b> |

Location

Loc Qty

Loc Code

Metec

397.1023061

127892

92.6259901

131451

304.476316

D3910-5P

Purchased

No

Each

0.0000

**\*D3910-5P\***

Crosstube Lug

**\*\***

10

20X 8015-10-10

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

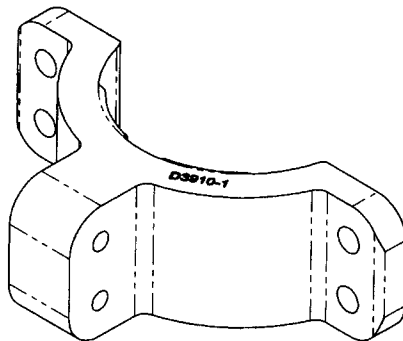


## WORK ORDER NON-CONFORMANCE / UPDATE

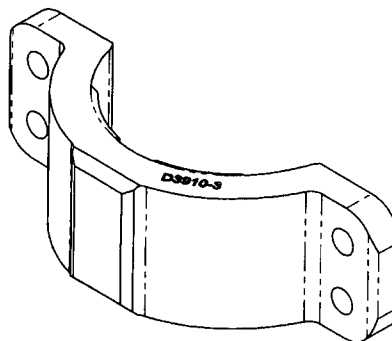
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

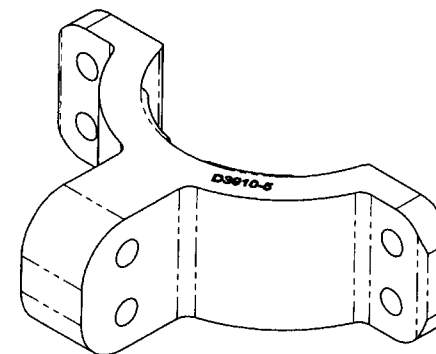
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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                          |  |  |                                                                                                                                                     |  |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |                                                                                                                                                     |  |  |
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| <b>Root Cause</b><br><div style="display: flex;"> <div style="width: 50%;">             Environment <input type="checkbox"/><br/>             Design <input type="checkbox"/><br/>             Doc/Data <input type="checkbox"/><br/>             Equip/Tooling <input type="checkbox"/><br/>             Handling/Pre <input type="checkbox"/><br/>             Material <input type="checkbox"/><br/>             Internal Transport <input type="checkbox"/><br/>             Tribal Knowledge <input type="checkbox"/><br/>             LOA <input type="checkbox"/><br/>             Substation <input type="checkbox"/><br/>             Past Expiry Date <input type="checkbox"/><br/>             Misidentified <input type="checkbox"/> </div> <div style="width: 50%;">             No Re-verification <input type="checkbox"/><br/>             Operator <input type="checkbox"/><br/>             Offset/Setup <input type="checkbox"/><br/>             Supplier <input type="checkbox"/><br/>             Training <input type="checkbox"/><br/>             Use for Testing <input type="checkbox"/><br/>             Poor Information <input type="checkbox"/><br/>             Rushing <input type="checkbox"/><br/>             Product Improvement <input type="checkbox"/><br/>             Process Improvement <input type="checkbox"/><br/>             Manufacturing Process <input type="checkbox"/><br/>             Past Due <input type="checkbox"/> </div> </div> |  | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="width: 50%;">             Pressure/Forced <input type="checkbox"/><br/>             Bending <input type="checkbox"/><br/>             Centre Not Concentric <input type="checkbox"/><br/>             Cracks <input type="checkbox"/><br/>             Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>             Cuffs <input type="checkbox"/><br/>             Crushing <input type="checkbox"/><br/>             Heat Treat <input type="checkbox"/><br/>             Wave/Twist in Tube <input type="checkbox"/><br/>             Marks/Chatter <input type="checkbox"/> </div> <div style="width: 50%;">             Temperature/Cure <input type="checkbox"/><br/>             Set-up <input type="checkbox"/><br/>             BOM/Route <input type="checkbox"/><br/>             Broken/Damage/Defect <input type="checkbox"/><br/>             Inspection Incomplete/Unqualified <input type="checkbox"/><br/>             Contamination <input type="checkbox"/><br/>             Countersink <input type="checkbox"/><br/>             Cut Too Short <input type="checkbox"/><br/>             Instructions Incomplete/Unclear <input type="checkbox"/><br/>             Drill Holes <input type="checkbox"/> </div> </div> |  | <div style="display: flex;"> <div style="width: 50%;">             Power Loss/Surge <input type="checkbox"/><br/>             Folio/Program <input type="checkbox"/><br/>             Grain <input type="checkbox"/><br/>             Weld <input type="checkbox"/><br/>             Wrong Stock Pulled <input type="checkbox"/><br/>             Out of Sequence <input type="checkbox"/><br/>             Off-set <input type="checkbox"/><br/>             Mislabeled <input type="checkbox"/><br/>             Fit/Function <input type="checkbox"/><br/>             Misaligned/off center <input type="checkbox"/> </div> <div style="width: 50%;">             Positioned Wrong <input type="checkbox"/><br/>             Outside Dimensions <input type="checkbox"/><br/>             Over/Under tolerance <input type="checkbox"/><br/>             Part Incorrect <input type="checkbox"/><br/>             Part Lost/Missing <input type="checkbox"/><br/>             Part Moved <input type="checkbox"/><br/>             Drawing <input type="checkbox"/><br/>             Finish <input type="checkbox"/><br/>             Misread <input type="checkbox"/><br/>             Turning Sequence <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                     |  |  |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |                                                                                                                                                     |  |  |



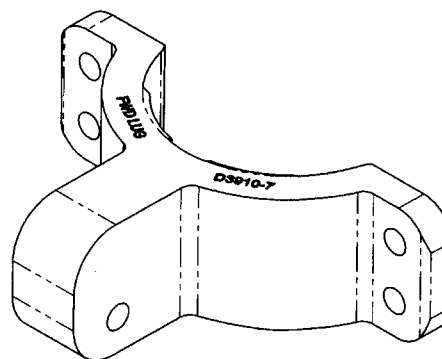
**D3910-1 X-TUBE LUG**



**D3910-3 X-TUBE LUG**



**D3910-5 X-TUBE LUG**



**D3910-7 X-TUBE LUG**

**NOTES:**

- 1) MATERIAL: MAKE FROM D2423 EXTRUSION
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER TO A DEPTH OF 0.010  $\pm$  0.005 IN THIS LOCATION WITH A TOOL TIP RADIUS OF 0.015  $\pm$  0.005
- 7) WEIGHT -1: 0.32 lbs  
-3: 0.25 lbs  
-5: 0.36 lbs  
-7: 0.37 lbs
- 8) IDENTIFICATION: ENGRAVE "FWD LUG" TO A DEPTH OF 0.010  $\pm$  0.005 IN THIS LOCATION WITH A TOOL TIP RADIUS OF 0.015  $\pm$  0.005

SHOP CO  
RETURN TO  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO AMEND  
WITHOUT NOTICE  
WORK ORDER

NO. 139667 MLS  
15-12-03

**RELEASED**

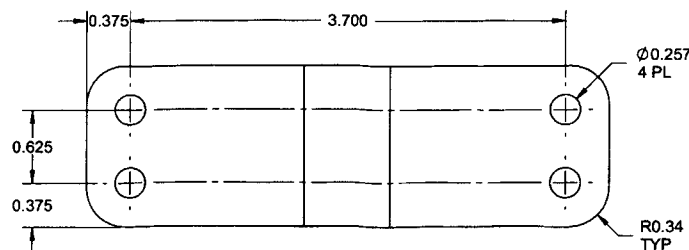
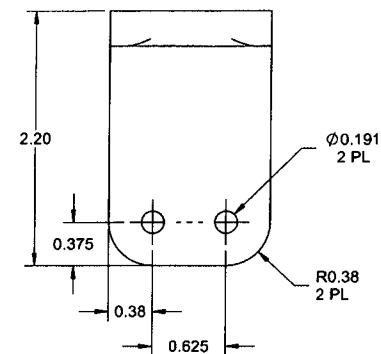
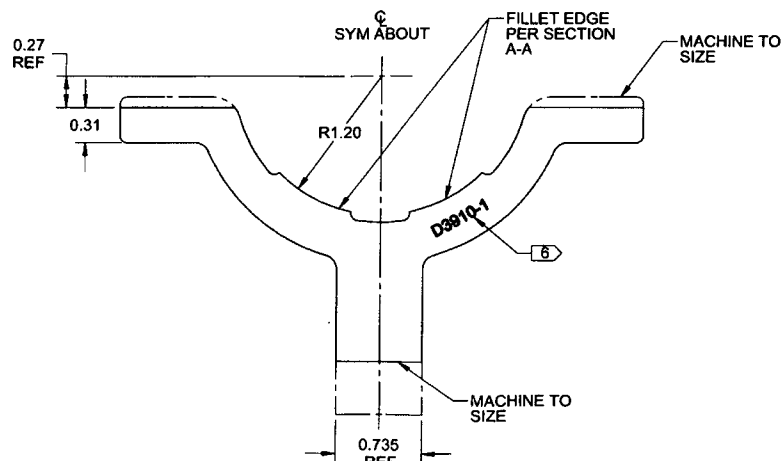
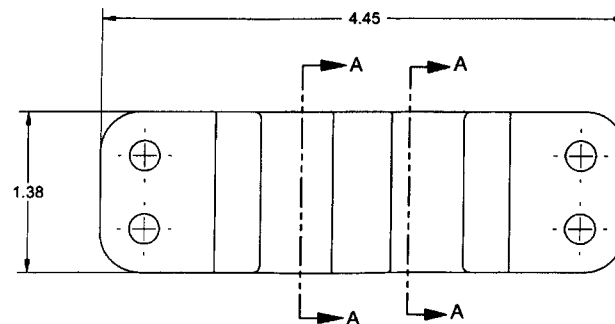
2014 JUN 05  
ECN 14-572

|            |                                                                                                                       |                                                                                                                                                                                                                                                                         |          |
|------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| E          | ADD -7 PER NCR14-3871                                                                                                 | AJS                                                                                                                                                                                                                                                                     | 14.05.16 |
| D          | CHANGED FASTENER HOLES IN -5 FOR 1/4" HARDWARE.<br>REASON: EASE OF INSTALLATION.                                      | AJS                                                                                                                                                                                                                                                                     | 13.08.14 |
| C          | ADD -5.                                                                                                               | AJS                                                                                                                                                                                                                                                                     | 13.08.08 |
| B          | Ø0.257 HOLES: 4 PL WAS 2 PL (A3-2) & (A3-3); R0.34<br>FILLET WAS R0.50 (A3-2) & (A3-3).<br>REASON: SEE TR-0350-607-2. | JPH                                                                                                                                                                                                                                                                     | 10.03.16 |
| A          | NEW ISSUE                                                                                                             | JPH                                                                                                                                                                                                                                                                     | 10.03.04 |
| REV.       | DESCRIPTION                                                                                                           | BY                                                                                                                                                                                                                                                                      | DATE     |
| DESIGN     | AJS                                                                                                                   | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                       |          |
| DRAWN      | AJS                                                                                                                   |                                                                                                                                                                                                                                                                         |          |
| CHECKED    | <i>[Signature]</i>                                                                                                    | DRAWING NO. D3910                                                                                                                                                                                                                                                       | REV. E   |
| MFG. APPR. | <i>[Signature]</i>                                                                                                    | SHEET 1 OF 5                                                                                                                                                                                                                                                            |          |
| APPROVED   | <i>[Signature]</i>                                                                                                    | TITLE                                                                                                                                                                                                                                                                   | SCALE    |
| DE APPR.   | <i>[Signature]</i>                                                                                                    | X-TUBE LUG (350)                                                                                                                                                                                                                                                        | NTS      |
| DATE       | 14.05.16                                                                                                              | COPYRIGHT © 2010 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD. |          |



ROUND EDGE  
R0.06 MIN - R0.10 MAX  
2 PL

**SECTION A-A**



**D3910-1 X-TUBE LUG**

**RELEASED**

2014 JUN 05 *q*

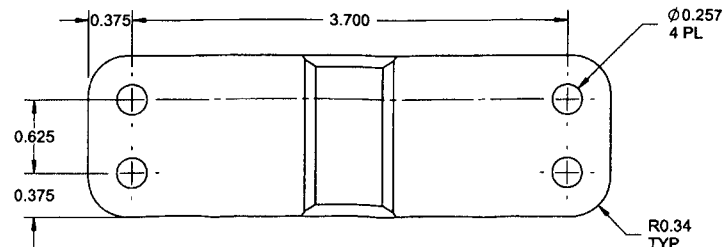
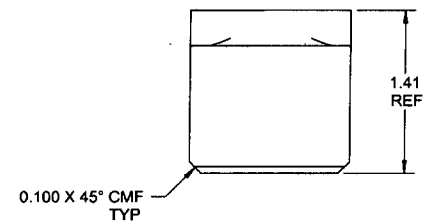
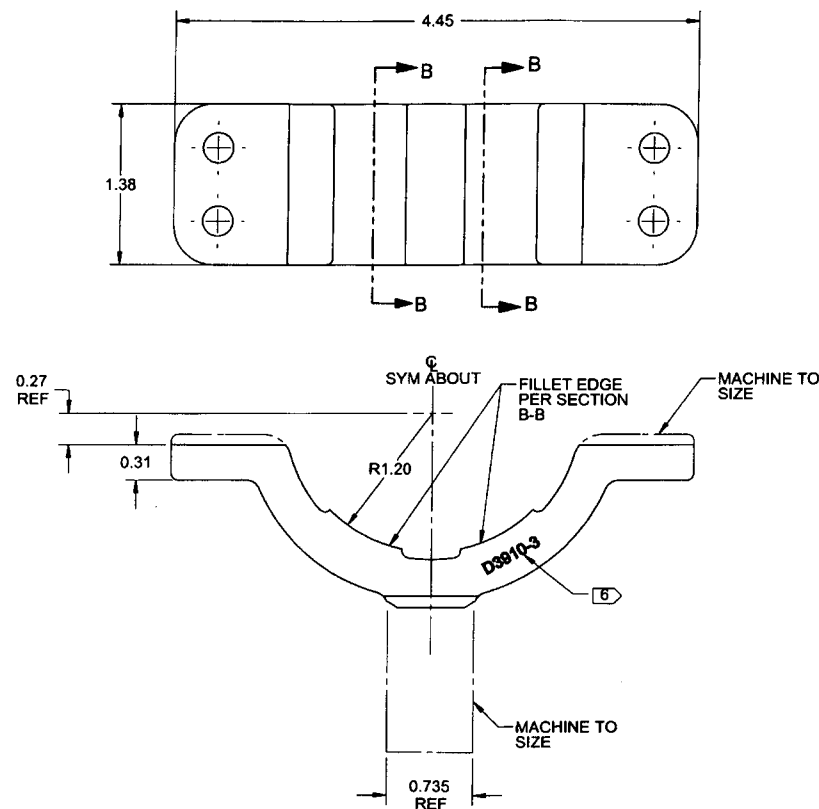
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|------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | AJS                | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                        |              |
| DRAWN      | AJS                | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                      |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                      | REV. E       |
| MFG. APPR. | <i>[Signature]</i> | D3910                                                                                                                                                                                                                                                                            | SHEET 2 OF 5 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                            | SCALE        |
| DE APPR.   | <i>[Signature]</i> | X-TUBE LUG (350)                                                                                                                                                                                                                                                                 | NTS          |
| DATE       | 14.05.16           | COPYRIGHT © 2010 BY DART AEROSPACE LTD.<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |



**SECTION B-B**



ROUND EDGE  
R0.06 MIN - 0.10 MAX  
2 PL



**RELEASED**

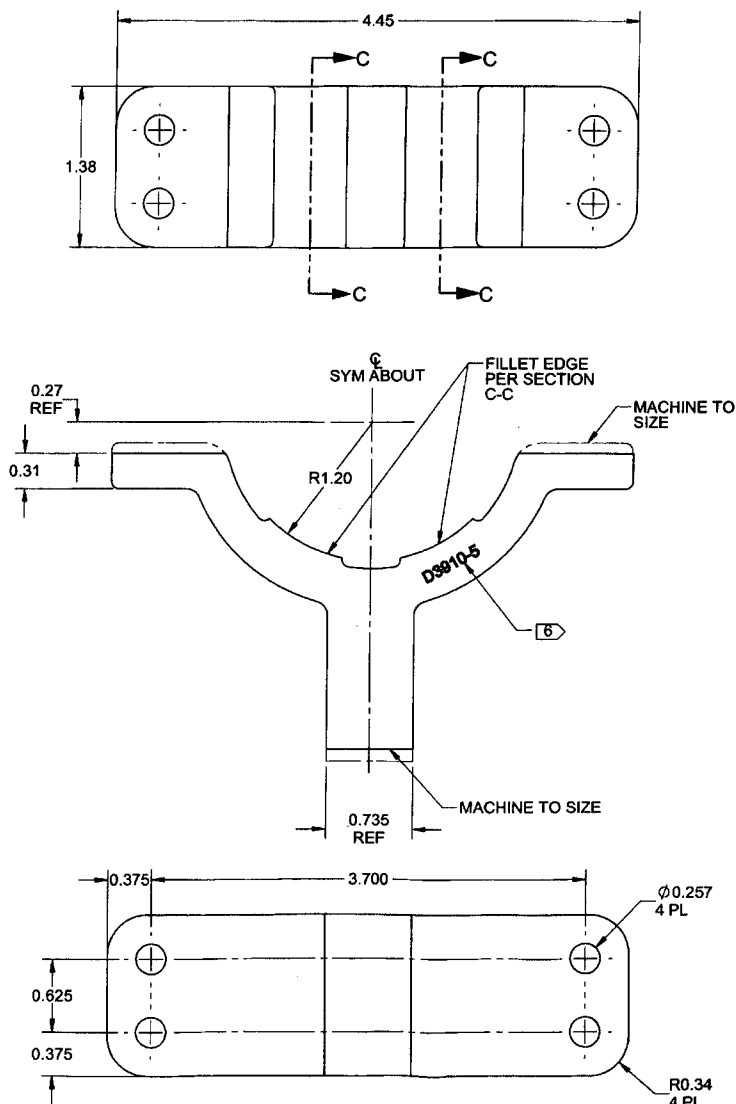
2014 JUN 05

|            |                    |                                                                                                                                                                                                                                                                                                  |              |
|------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | AJS                | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                                        |              |
| DRAWN      | AJS                | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                                      |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                                      | REV. E       |
| MFG. APPR. | <i>[Signature]</i> | D3910                                                                                                                                                                                                                                                                                            | SHEET 3 OF 5 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                                            | SCALE        |
| DE APPR.   | <i>[Signature]</i> | X-TUBE LUG (350)                                                                                                                                                                                                                                                                                 | NTS          |
| DATE       | 14.05.16           | <small>COPYRIGHT © 2010 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br/>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br/>WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |              |

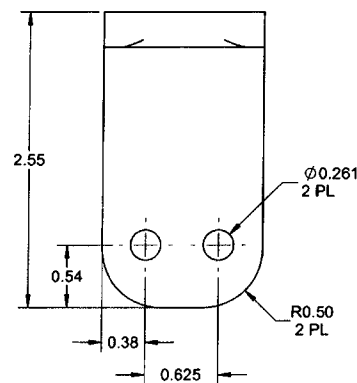
**SECTION C-C**



ROUND EDGE  
R0.06 MIN - 0.10 MAX  
2 PL



**D3910-5 X-TUBE LUG**



**RELEASED**

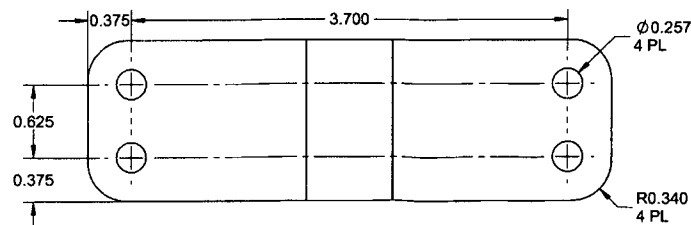
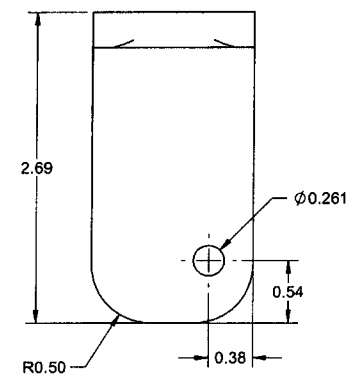
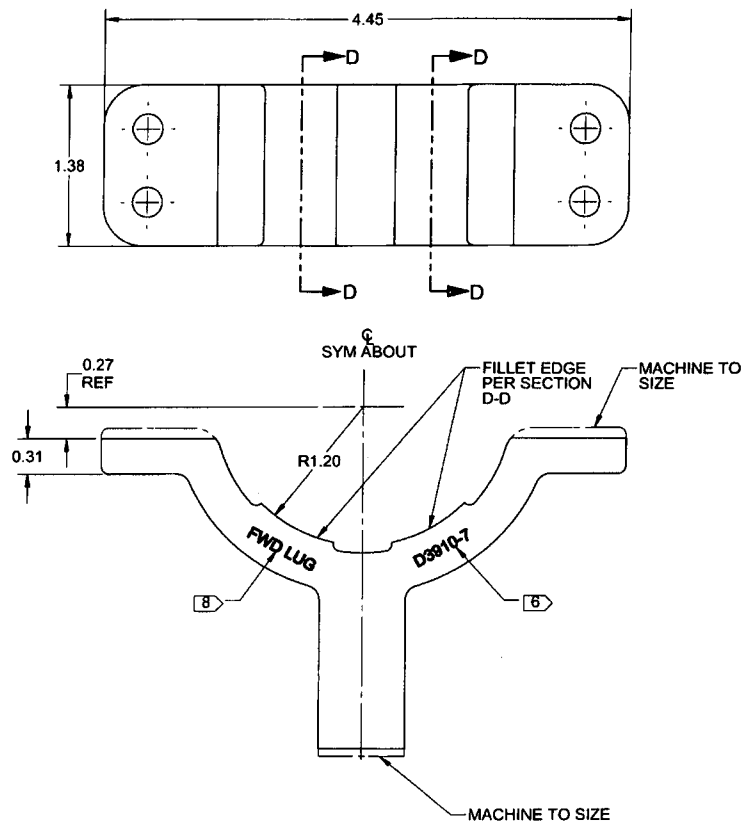
2014 JUN 05

|                                                                                                                                                                                                                                |                    |                                        |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                         | AJS                | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                          | AJS                | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                        | <i>[Signature]</i> | DRAWING NO.                            | REV.         |
| MFG. APPR.                                                                                                                                                                                                                     | <i>[Signature]</i> | <b>D3910</b>                           | SHEET 4 OF 5 |
| APPROVED                                                                                                                                                                                                                       | <i>[Signature]</i> | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                       | <i>[Signature]</i> | <b>X-TUBE LUG (350)</b>                | NTS          |
| DATE                                                                                                                                                                                                                           | 14.05.16           | COPYRIGHT © 2010 BY DART AEROSPACE LTD |              |
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**SECTION D-D**



ROUND EDGE  
R0.06 MIN - 0.10 MAX  
2 PL



**D3910-7 X-TUBE LUG**

**RELEASED**

2014 JUN 05

|            |          |                                                                                                                                                                                                                                                                                |              |
|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | AJS      | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                      |              |
| DRAWN      | AJS      | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                    |              |
| CHECKED    |          | DRAWING NO.                                                                                                                                                                                                                                                                    | REV. E       |
| MFG. APPR. |          | D3910                                                                                                                                                                                                                                                                          | SHEET 5 OF 5 |
| APPROVED   |          | TITLE                                                                                                                                                                                                                                                                          | SCALE        |
| DE APPR.   |          | X-TUBE LUG (350)                                                                                                                                                                                                                                                               | NTS          |
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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO30654**

Purchase Order Date 12/3/2015

PO Print Date 12/7/2015

Page Number 1 of 2

**Order From :**

VC-MET003

**Ship To :** DART AEROSPACE LTD

METEC METAL TECHNOLOGY INC.  
20 TERRY FOX DRIVE PO BOX 781  
VANKLEEK HILL, ON K0B 1R0  
CA

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

*REVISED \$*

**Contact Name**

**Vendor Phone** 613 678 3957

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Ship To Contact**

**Ship To Phone**

**Terms**

Net 10

**Ship Via:**

Dart Truck

**Currency**

CAD

**Ship Acct:**

**FOB**

Destination-Collect

| Line Nbr | Reference Vendor Part Number | Description/ Mfg ID | Req Date/ Taxable | CD | Req Qty/ Unit of Measure | PO Unit Price | Extended Price |
|----------|------------------------------|---------------------|-------------------|----|--------------------------|---------------|----------------|
|          | Line Comments                |                     | Promise Date      |    |                          |               |                |
|          | Delivery Comments            |                     |                   |    |                          |               |                |
| 1        | D3910-1P                     | Crosstube Lug       | 12/18/2015        |    | 20.00                    | \$16.10       | \$322.00       |
|          |                              |                     | Yes               |    | Each                     |               |                |
|          |                              |                     | 12/18/2015        |    |                          |               |                |

AS PER DWG D3910 REV. E  
B139511

**Line Total:** \$322.00

2 D3910-5P

Crosstube Lug

12/18/2015

x 20.00 x ✓  
Each

→ \$16.10 \$322.00

Yes

12/18/2015

AS PER DWG D3910 REV. E  
B139667

*2015-12-10*

**Line Total:** \$322.00

**Note:**

12/7/2015



20 Terry Fox Drive  
Vankleek Hill, Ontario K0B 1R0 , Canada  
Tel: (613) 678-3957  
Fax: (613) 678-3956

**Delivery Slip No.:** 20569  
**Date:** Dec 04, 2015  
**Page:** 1

|                                                                                                                                |                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Sold to:</b><br><br><b>Dart Aerospace Ltd.</b><br>Att. Linda Lacelle<br>1270 Aberdeen Street<br>Hawkesbury, Ontario K6A 1K7 | <b>Ship to:</b><br><br>Dart Aerospace Ltd.<br>Att. Linda Lacelle<br>1270 Aberdeen Street<br>Hawkesbury, Ontario K6A 1K7 |
| <b>Order No.:</b> PO30654                                                                                                      | <b>Sold By:</b> Walz, Christian D.                                                                                      |
| <b>Shipped By:</b> your truck                                                                                                  | <b>Ship Date:</b> Dec 04, 2015                                                                                          |

| Description                                                                                                                                                                                            | Unit | Ordered quantity          | Quantity | Backorder quantity |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------|----------|--------------------|
| D3910-1 Crosstube Lug<br>Alodine and Paint as per QSI 005                                                                                                                                              | Each | 20                        |          | 20                 |
| D3910-5 Crosstube Lug<br>Alodine and Paint as per QSI 005                                                                                                                                              | Each | 20                        | 20       |                    |
| <p>2 Green Boxes sent<br/>— Green Boxes received</p> <p>SP 15-12-10</p>                                                                                                                                |      |                           |          |                    |
| The delivered goods must be inspected upon receipt to confirm compliance.<br>Should there be discrepancies please notify METEC within 30 days of delivery.<br>The goods are otherwise deemed accepted. |      |                           |          |                    |
| Received by _____                                                                                                                                                                                      |      | Thank you for your order! |          |                    |



20 Terry Fox Drive, Vankleek Hill, Ontario K0B 1R0  
Tel. (613) 678-3957 & (613) 678-2782 Fax (613) 678-3956 [metec@metec.ca](mailto:metec@metec.ca)

## CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, Ont.  
K6A 1K7

SHIPPED TO:

same

QUANTITY

PART NUMBER

PART NAME

P.O. NUMBER

50  
20X

D3910-5

Crosstube Lug

30654

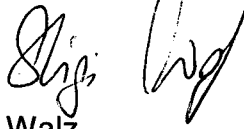
Paint Batch # 20171

MATERIAL: supplied by DART B131451

SP15-72-10

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.

  
Shigi Walz

Vankleek Hill, December 4, 2015